

**IN THE CLAIMS:**

1. **(Currently Amended)** A method for driving a solid-state image pickup device which stores, in a plurality of photo-electric conversion units, signal charges corresponding to an incident light during a prescribed time period, each of said photo-electric conversion units being provided with an overflow drain (OFD) structure, excludes surplus charges from said photo-electric conversion units by an electric potential barrier, said electric potential barrier being maintained at a first level between said OFD structure and each of said photo-electric conversion ~~units,~~ units during said prescribed time period, reads out, after cutting off said incident light by a cut-off means such as a mechanical shutter, said signal charges by grouping said photo-electric conversion units into a prescribed number of regions, and outputs image signal from all of the photo-electric conversion units by repeating the read-out procedures, ~~which comprises~~ said read-out procedures being carried out during a time period other than said prescribed time period, said read-out procedures comprising the steps of:

cutting off said incident light;

raising up said electric potential ~~barrier;~~ barrier to a higher level than said first level; and

starting reading out said signal charges.

2. **(Previously Presented)** The method for driving a solid-state image pickup device according to Claim 1, wherein said electric potential barrier during the read-out step is raised up by a voltage greater than 0.4.V.

3.-4. **(Canceled).**

5. **(Previously Presented)** The method for driving a solid-state image pickup device according to Claim 1, wherein said OFD structure is a vertical OFD structure which excludes the surplus charges from said photo-electric conversion units by said electric potential barrier by a voltage applied to a substrate of said vertical OFD structure, which comprises the steps of:

cutting off said incident light;  
raising up said electric potential barrier; and  
starting reading out said signal charges.

6. **(Previously Presented)** The method for driving a solid-state image pickup device according to Claim 5, wherein said electric potential barrier during the read-out step is raised up by a voltage greater than 0.4V.

7.-8. **(Canceled).**

9. **(Previously Presented)** The method for driving a solid-state image pickup device according to Claim 1, wherein said OFD structure is a horizontal OFD structure which excludes the surplus charges from said photo-electric conversion units by said electric potential barrier by a voltage applied to a gate of said horizontal OFD structure, which comprises the steps of:

cutting off said incident light;  
raising up said electric potential barrier; and  
starting reading out said signal charges.

10. **(Previously Presented)** The method for driving a solid-state image pickup device according to Claim 9, wherein said electric potential barrier during the read-out step is raised up by a voltage greater than 0.4V.

11.-12. (Canceled).

13. **(Previously Presented)** The method for driving a solid-state image pickup device according to Claim 1, wherein said signal charges are read-out from said photo-electric conversion units through signal read-out portions and the electric potential of said electric potential barrier during the read-out step is deeper than an electric potential which is applied in signal read-out portion during the times except said read-out step.

14. **(Previously Presented)** The method for driving a solid-state image pickup device according to Claim 13, wherein the potential different between said electric potential of said electric potential barrier during the read-out step and said electric potential which is applied in said signal read-out portion is greater than 0.4V.

15. **(Previously Presented)** The method for driving a solid-state image pickup device according to Claim 5, wherein said signal charges are read-out from said photo-electric conversion units through signal read-out portions and the electric potential of said electric potential barrier during the read-out step is deeper than an electric potential which is applied in signal read-out portion during the times except said read-out step.

16. **(Previously Presented)** The method for driving a solid-state image pickup device according to Claim 15, wherein the potential difference between said electric potential of said electric potential barrier during the read-out step and said electric potential which is applied in said signal read-out portion is greater than 0.4V.

17. **(Previously Presented)** The method for driving a solid-state image pickup device according to Claim 9, wherein said signal charges are read-out from said photo-electric conversion units through signal read-out portions and the electric potential of said electric potential barrier during the read-out step is deeper than an electric potential which is applied in signal read-out portion during the times except said read-out step.

18. **(Previously Presented)** The method for driving a solid-state image pickup device according to Claim 17, wherein the potential difference between said electric potential of said electric potential barrier during the read-out step and said electric potential which is applied in said signal read-out portion is greater than 0.4V.

19. **(New)** A method for driving a solid-state image pickup device which stores, in a plurality of photo-electric conversion units, signal charges corresponding to an incident light during a prescribed time period, each of said photo-electric conversion units being provided with an overflow drain (OFD) structure, excludes surplus charges from said photo-electric conversion unit by an electric potential barrier, said electric potential barrier being maintained between said photo-electric conversion unit and said OFD structure which is next to said photo-electric conversion unit, reads out, after cutting off said incident light by a cut-off means such as a

mechanical shutter, said signal charges by grouping said photo-electric conversion units into a prescribed number of regions, and outputs an image signal from all of the photo-electric conversion units by repeating the read-out procedure, which comprises the steps of:

- cutting off said incident light;
- raising up said electric potential barrier; and
- starting reading out said signal charges.

**20. (New)** The method for driving a solid-state image pickup device according to Claim 19, wherein said electric potential barrier during the read-out step is raised up by a voltage greater than 0.4V.

**21. (New)** The method for driving a solid-state image pickup device according to Claim 19, wherein said signal charges are read out from said photo-electric conversion units through signal read-out portions and the electric potential of said electric potential barrier during the read-out step is deeper than an electric potential which is applied in said signal read-out portion during time periods other than said read-out step.

**22. (New)** The method for driving a solid-state image pickup device according to Claim 21, wherein the potential difference between said electric potential of said electric potential barrier during the read-out step and said electric potential which is applied in said signal read-out portion is greater than 0.4V.